Institute for Scientific Computing Research

Annual Report

Fiscal Year 2002

Lawrence Livermore National Laboratory, P.O. Box 808, L-561, Livermore, CA 94551

UNIVERSITY RELATIONS PROGRAM

The University Relations Program (URP) encourages collaborative research between Lawrence Livermore National Laboratory (LLNL) and the University of California campuses. The Institute for Scientific Computing Research (ISCR) actively participates in such collaborative research, and this report details the Fiscal Year 2002 projects jointly served by URP and ISCR. For a full discussion of all URP projects in FY 2002, please request a copy of the URP FY 2002 Annual Report by contacting

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Edie Rock, University Relations Program
P. O. Box 808, L-413
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Contents

The Mission of the ISCR

The Institute for Scientific Computing Research (ISCR) at Lawrence Livermore National Laboratory is jointly administered by the Computing Applications and Research Department (CAR) and the University Relations Program (URP), and this joint relationship expresses its mission. An extensively externally networked ISCR cost-effectively expands the level and scope of national computational science expertise available to the Laboratory through CAR. The URP, with its infrastructure for managing six institutes and numerous educational programs at LLNL, assumes much of the logistical burden that is unavoidable in bridging the Laboratory's internal computational research environment with that of the academic community.

As large-scale simulations on the parallel platforms of DOE's Advanced Simulation and Computing (ASCI) become increasingly important to the overall mission of LLNL, the role of the ISCR expands in importance, accordingly.

Relying primarily on non-permanent staffing, the ISCR complements Laboratory research in areas of the computer and information sciences that are needed at the frontier of Laboratory missions. The ISCR strives to be the “eyes and ears” of the Laboratory in the computer and information sciences, in keeping the Laboratory aware of and connected to important external advances. It also attempts to be “feet and hands,” in carrying those advances into the Laboratory and incorporating them into practice. In addition to conducting research, the ISCR provides continuing education opportunities to Laboratory personnel, in the form of on-site workshops taught by experts on novel software or hardware technologies.

The ISCR also seeks to influence the research community external to the Laboratory to pursue Laboratory-related interests and to train the workforce that will be required by the Laboratory. Part of the performance of this function is interpreting to the external community appropriate (unclassified) aspects of the Laboratory's own contributions to the computer and information sciences—contributions that its unique mission and unique resources give it a unique opportunity and responsibility to make.

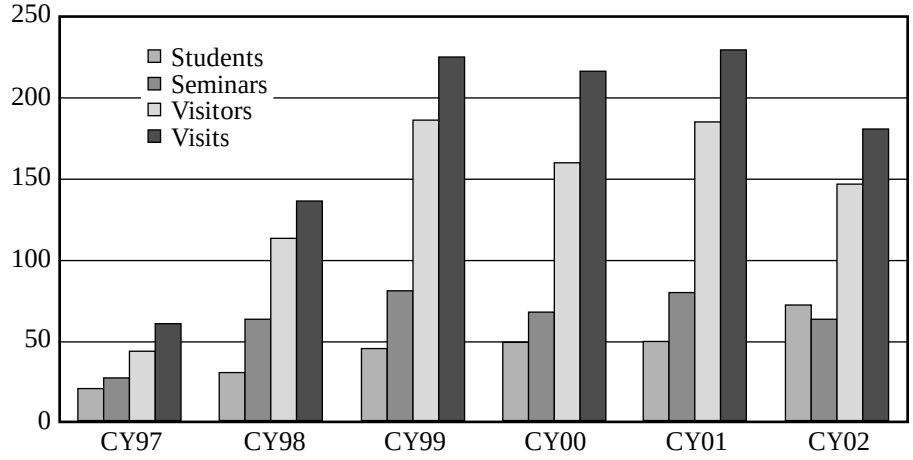
Of the three principal means of packaging scientific ideas for transfer—people, papers, and software—experience suggests that the most effective means is people. The programs of the ISCR are therefore people-intensive.

Finally, the ISCR, together with CAR, confers an organizational identity on the burgeoning computer and information sciences research activity at LLNL and serves as a point of contact within the Laboratory for computer and information scientists from outside.

Institute for Scientific Computing Research Fiscal Year 2002 Director's Report

Large-scale scientific computation, and all of the disciplines that support it and help to validate it, have been placed at the focus of Lawrence Livermore National Laboratory by the Advanced Simulation and Computing (ASCI) program and more recently by DOE's Scientific Discovery through Advanced Computing (SciDAC) initiative. The Laboratory operates computers with among the highest peaks of performance in the world and has undertaken some of the largest and most compute-intensive simulations ever performed. Energy Secretary Spencer Abraham announced in November 2002 the awarding to the Laboratory of two future machines, each of which is expected to be at the time of their delivery the world's most capable. However, computers at architectural extremes are notoriously difficult to use efficiently. Furthermore, each successful terascale simulation only points out the need for much better ways of interacting with the resulting data.

ISCR Visitor Program



Advances in scientific computing research have therefore never been more vital to the core missions of the Laboratory than at present. Computational science is evolving so rapidly along every one of its research fronts that to remain on the leading edge the Laboratory must engage researchers at many academic centers of excellence. In FY 2002, the Institute for Scientific Computing Research (ISCR) has served as one of the Laboratory's main bridges to the academic community in the form of collaborative subcontracts, visiting faculty, student internships, workshops, and an active seminar series.

ISCR research participants are integrated into the Laboratory's Computing and Applied Research (CAR) department, especially into its Center for Applied Scientific Computing (CASC). These organizations, in turn, address computational challenges arising throughout the Laboratory. Administratively, the ISCR flourishes under the Laboratory's University Relations Program (URP). Together with the other Institutes of the URP, it navigates a course that allows the Laboratory to benefit from academic exchanges while preserving national security. While it is difficult to operate an academic-like research enterprise within the context of a national security laboratory, the results declare the challenges well met and worth the continued effort.

Fiscal year 2002 was the third full year under Acting Director David Keyes. Keyes, the Richard F. Barry Professor of Mathematics & Statistics at Old Dominion University and an ISCR faculty participant since October 1997, dedicated one-third of his time to the technical program of the ISCR. Dr. James McGraw assumed a critical role as the Deputy Director of the ISCR, just in time for a major expansion of its programs and accountabilities stemming from new support responsibilities within CAR. Linda Bodtker came aboard as the full-time Institute Administrator. Emma Horcabas and Leslie Bills also assisted with the large visitor and summer programs.

In May 2002, the ISCR relocated from its offices in the Building 451 complex, where staff and visitors were interspersed with their administrative sponsors and research collaborators, to newly renovated space in the east wing of Building 219. There, it joined the other institutes of the University Relations Program. While in some ways this move carried disadvantages that require more effort on the part of everyone involved in university collaborations to overcome – especially in terms of spontaneous interaction between sponsors and visitors and in terms of convenience in attending seminars of joint interest – it also created more camaraderie and opportunities for shared experiences between visitors, and increased community with the URP. The new level of interaction with the sister Materials

Research Institute has been especially fruitful, as is in evidence, for instance, in the new Quantum Computing seminar series.

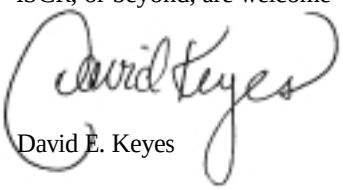
In June, with the advent of our large student summer program and sponsorship from the Defense Programs office of DOE HQ, we ramped up our third annual Internships in Terascale Simulation Technology tutorial series. The tutors included Erick Cantu-Paz, Terence Critchlow, Alex Garcia, Jeff Hittinger, Tanya Kostova-Vassilevska, Gary Kumfert, Carol Woodward, CASC's Director Pete Eltgroth, and the ISCR Director. Though intended for students, permanent CASC researchers attended an occasional subseries of the lectures.

Throughout FY 2002, the ISCR brought to the Laboratory a vigorous contingent of post-docs, faculty visitors, and students. Twenty-four faculty visitors were in residence for more than just a seminar visit – for a week to a semester. Nine post-docs made the ISCR their home this past year. We also had 72 students in residence, mostly for 8–10 weeks of the summer, but several of them for a semester or a full year. Each of these students was in a research relationship with a full-time technical staff member.

The pages of this report summarize the activities of the faculty members, post-doctoral researchers, students, and guests from industry and other laboratories who participated in LLNL's computational mission under the auspices of the ISCR during FY 2002. Altogether, the ISCR hosted 180 visits from 147 different visitors, who gave a total of 66 seminars on site, an average of a little more than one per week. The vast majority of the visitors were from academia, with 8% from industry and 12% from other laboratories. Visitors from outside of the United States made up 25% of the total. The histogram left charts the numbers of visitors and seminars over the past six years. Students in residence were sharply up due to the expansion of the ISCR's responsibility in the larger CAR organization. The numbers of visitors and seminars hosted by the ISCR was down in part due to budget uncertainties and in part to participation in lab-wide seminar series and special events surrounding the fiftieth anniversary of LLNL.

Most of the material of this annual report comes directly from the visitors and principal investigators of the projects being reported, who selected formats convenient for their purposes. We thank Whitney Lacy for her editorial work and Dan Moore for his graphic artistry in producing an easily navigated and visually pleasing document.

We hope that you enjoy examining this report on the ISCR's diverse activities in FY 2002. For further information about the Institute, please contact us at the address below. Inquiries about how you might enhance the on-going FY 2003 program at the ISCR, or beyond, are welcome



David E. Keyes

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Administrator
http://www.llnl.gov/casc/people/bodtker/
bodtker2@llnl.gov
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Special Report on Employment Placement of ISCR Summer Student Alumni

In addition to supporting the Laboratory's computational science research programs, the ISCR serves as a valuable recruiting vehicle. The purpose of this special report is to summarize the success of the ISCR as a means of attracting outstanding young computational scientists from its summer program to the DOE national laboratories.

We emphasize, however, that the goal of the ISCR summer program is not direct DOE job placement, but rather making progress on LLNL scientific missions, educating the academic community about those Laboratory missions through immersion of personnel, and providing the technical resources, training, and direction necessary to allow them to help us achieve those missions. Nevertheless, much of the support and good will that the ISCR has enjoyed in recent years—from the University Relations Program, the Computation Directorate, the Director's Office, Laboratory Programs, and NNSA headquarters—is related to its potential for attracting the nation's most capable future scientists to career laboratory work. Therefore, the five-year snapshot of this report is gratifying.

Over the most recent five-year window (1998-2002, inclusive), the ISCR hosted 178 distinct students for a total of 260 student summers, with some students repeating for a second summer or even more. Many of these were undergraduates who were graduate school-bound when they interned, so even with a five-year window most of these are still in the pipeline and do not yet contribute to initial career placement statistics. Since a typical number of years in graduate school is five or six in the sciences and engineering, many of the students who first came to LLNL as graduate students are also still in the pipeline. Moreover, our earlier summer programs were small in comparison with our most recent summers, so most of our interns are still students. To be precise, 127 of our summer interns are known to be students still, and though we are missing data on a few of the remainder, we conclude that 51 have completed their studies. Of these 51 students who left school, we know of 23 ISCR summer students that have gone on to full-time DOE lab employment. Therefore at least 45% of ISCR summer interns have ended up at a DOE laboratory upon completion of their studies!

The 23 of whose lab placement we know break down as follows:

15	LLNL
3	Sandia
3	Los Alamos
1	Argonne
1	Brookhaven

Two categories of summer students, those enrolled year-round in the UC Davis Division of Applied Science (DAS) doctoral program and those recruited under the Institute for Terascale Simulation Technologies (ITST), have the greatest likelihood, statistically, of becoming laboratory employees upon graduation.

Is 45% good overall? We think it is very reasonable. Certainly 100% would not be good—one of the opportunities of a summer internship program is to filter out students who, while talented in laboratory mission areas, do not have the team spirit for career laboratory employment. It is certainly better to identify such students through a summer program than after consummating secure employment. In addition, we want a certain number of students coming through the summer program who intend to make a career of the professoriate — training the next generation.

In fact, we have returned over 20% of our seed corn to the field of academe. Eleven of our estimated 51 graduated former summer interns have taken positions in academia, a few initially as post-docs and most as assistant professors. They have ended up at: Duke University, Stanford University, UC Irvine, University of Minnesota, University of Montana, University of North Carolina, University of Pennsylvania, University of Utah, and University of Washington, for those holding domestic appointments. Abroad, we have ISCR intern alumni at the prestigious Swiss Federal Institute of Technology (ETH) and the University of Toronto. These alumni in highly ranked doctoral research universities are likely to be highly useful to us through the years. They have begun to contact us proactively about sending their own best students for an ISCR summer in 2003. We now, in effect, have several scouts and agents in academia to identify talented students and help them to overcome any negative stereotypes of NNSA lab work.

We are “completing the circle” on the Laboratory side in addition to on the academic side: former summer research mentorees now employed at LLNL are actively taking students as summer mentors. They probably make more effective mentors than LLNL career scientists at random, because they can relate to the difficulty of getting useful work done in just 8–12 weeks. There is a “science” to summer internships that is evolved by doing. We know that there are considerable improvements yet to be made to the program, logistically. At the same time, we believe that there are new scientific areas and new student demographics that can be opened up with similar success.

In both the research and the job placement, we can take considerable satisfaction over the five years during which the ISCR has been closely allied with the Center for Applied Scientific Computing. We have similar expectations for the ISCR's growing role in hosting computational summer students for other Laboratory organizations.

ISCR Fiscal Year 2002 in Review
FY2002 Seminar Series, in reverse chronological order

Eric Jones, Enthought, Inc. ..... September 25-26, 2002
Allen Malony, University of Oregon ..... September 9-20, 2002
Bodo Parady, LLNL ..... September 17, 2002
Frederick Wong, University of California, Berkeley ..... September 17, 2002
Andrew Finney, California Institute of Technology ..... September 16, 2002
Ira Baxter, Semantic Designs, Inc. ..... September 6, 2002
James Davis, Stanford University ..... September 4, 2002
Ian Buck, Stanford University ..... August 30, 2002
Roger Davis, University of California, Davis ..... August 23, 2002
Branden Fitelson, San Jose State University ..... August 7, 2002
Fabio Milner, Purdue University ..... July 30-August 2, 2002
Zhiqiang Cai, Purdue University ..... July 29-August 2, 2002
Frank Mueller, North Carolina State University ..... July 22-August 2, 2002
Gene Golub, Stanford University ..... July 25, 2002
Vance Faber, Mapping Science, Inc. ..... July 1, 2002
Hoanh Vu, University of California, San Diego ..... June 28, 2002
Greg Pope, LLNL ..... June 26, 2002
Kim Yates, LLNL ..... June 25, 2002
Tim Matson, Intel Corporation ..... June 21, 2002
Linda Petzold, University of California, Santa Barbara ..... June 10-21, 2002
Serge Belongie, University of California, San Diego ..... June 20, 2002
Andrew Strelzoff, University of California, Santa Barbara ..... June 19-20, 2002
Michael Minion, University of North Carolina ..... June 12, 2002
Ralf Hiptmair, Universitaet Tuebingen ..... June 10, 2002
Erin Parker, University of North Carolina, Chapel Hill ..... May 28-31, 2002
Lars Arge, Duke University ..... May 22-25, 2002
Shivkumar Chandresakaran, University of California, Santa Barbara ..... May 24, 2002
Ming Gu, University of California, Berkeley ..... May 24, 2002
Srinivasan Parthasarathy, Ohio State University ..... May 17, 2002
Lori Freitag, Argonne National Laboratory ..... May 9-10, 2002
Raymond Loy, Argonne National Laboratory ..... May 9-10, 2002
Brent Gorda, Lawrence Berkeley National Laboratory ..... April 23, 2002
John Harer, Duke University ..... April 15-20, 2002
Patrick Roache, Ecodynamics Research Associates, Inc. ..... April 18, 2002
Long Lee, University of Washington ..... April 11-12, 2002
Florian Potra, University of Maryland, Baltimore County ..... April 3-5, 2002
Gabriel Silberman, IBM TJ Watson Laboratory ..... March 26, 2002
Phil Roth, University of Wisconsin-Madison ..... March 18-21, 2002
Sally McKee, University of Utah ..... March 3-14, 2002

Doug Enright, Stanford University ..... March 8, 2002
Gregory Pope, LLNL ..... February 28, 2002
Rolfe Schmidt, University of Southern California ..... February 27-28, 2002
Harold Trease, Pacific Northwest National Laboratory ..... February 27-28, 2002
Mathew Colgrove, Portland State University ..... February 21-22, 2002
Karen Karavanic, Portland State University ..... February 21-22, 2002
Thomas Hagstrom, University of New Mexico ..... February 7-8, 2002
Minnie Kerr, North Carolina State University ..... February 1, 2002
Luiz De Rose, IBM TJ Watson Research Center ..... January 29-30, 2002
David Stevens, LLNL ..... January 14, 2002
Terence Critchlow, LLNL ..... December 20, 2001
David Butler, Limit Point Systems ..... December 14, 2001
Giovanni Lapenta, Los Alamos National Laboratory ..... December 12, 2001
Achi Brandt, Weizmann Institute of Science ..... December 10-12, 2001
Linda Harden, LLNL ..... December 6, 2001
Annette Molinaro, University of California, Berkeley ..... December 6, 2001
Bernardo Cockburn, University of Minnesota ..... December 3, 2001
Bryan Buck, University of Maryland ..... November 30, 2001
William Dally, Stanford University ..... November 29, 2001
Patrick Hanrahan, Stanford University ..... November 29, 2001
Andries van Dam, Brown University ..... November 27, 2001
Ariel Shamir, The Interdisciplinary Center ..... November 19-21, 2001
Jim Douglas, Purdue University ..... November 16, 2001
Brandon Whitcher, National Center for Atmospheric Research ..... November 16, 2001
Herbert Edelsbrunner, Duke University ..... November 6, 2001
Walid Aref, Purdue University ..... October 29, 2001
Daniel Meiron, California Institute of Technology ..... October 25, 2001
Richard Braun, University of Delaware ..... October 23-25, 2001
Rob Ross, Argonne National Laboratory ..... October 15-19, 2001
Zhiqiang Cai, Purdue University ..... October 18, 2001
Jelena Tesic, University of California, Santa Barbara ..... October 15, 2001
Mikhail Shashkov, Los Alamos National Laboratory ..... October 12, 2001
Claudio Silva, AT&T Labs ..... October 8-12, 2001
Mikhail Shashkov, Los Alamos National Laboratory ..... October 11, 2001
Robert Bosch Jr., Stanford University ..... October 3, 2001
Zachary Peterson, University of California, Santa Cruz ..... October 1, 2001

FY2002 Institute for Terascale Simulation Lecture

Andries van Dam, Brown University

Visiting Faculty, Guests, Consultants, and Researchers

Visiting and Collaborating Researchers

Carlo Bottasso, Politecnico di Milano, Italy
Xiao-Chuan Cai, University of Colorado, Boulder
Zhiqiang Cai, Purdue University
Umit Catalyurek, Ohio State University
Tim Chartier, University of Washington
Herbert Edelsbrunner, Duke University
Alejandro Garcia, San Jose State University
Rod Fatoohi, San Jose State University
Nicolas Hadjiconstantinou, Massachusetts Institute of Technology
John Harer, Duke University
Ralf Hiptmair, Universitaet Tuebingen
Andrew Knyazev, University of Colorado, Denver
Kenneth Joy, University of California, Davis
Raytcho Lazarov, Texas A&M University
Sally McKee, University of Utah
Michael Minion, University of North Carolina
Frank Mueller, North Carolina State University
Joe Pasciak, Texas A&M University
Michael Pernice, Los Alamos National Laboratory
John Ruge, Front Range Scientific Computations, Inc.
Don Schwendeman, Rensselaer Polytechnic Institute
Claudio Silva, AT&T Labs
Lee Taylor, TeraScale LLC
Jacob Ystrom, Royal Institute of Technology, Stockholm

Participating Guests

Marsha Berger, New York Univerisity
Marian Brezina, University of Colorado
Alok Choudhary, Northwestern University
Richard Cook, University of California, Davis
Eric de Sturler, University of Illinois, Champaign-Urbana
Branden E. Fitelson, Argonne National Laboratory
John Fitzgerald, Lawrence Livermore National Laboratoy (Retired)
Sharon Frazier, Lawrence Livermore National Laboratory (Retired)
Alejandro Garcia, San Jose State University
Michael Griebel, Bonn University
Amarnath Gupta, San Diego Supercomputer Center
Bernd Hamann, University of California, Davis
Alan Hindmarsh, Lawrence Livermore National Laboratory (retired)

Kenneth Joy, University of California, Davis
Andrew Knyazev, University of Colorado, Denver
Johannes Kraus, University of Leoben, Austria
Falko Kuester, University of California, Irvine
Raytcho Lazarov, Texas A&M University
Byung Lee, University of Vermont
Lars Linsen, University of California, Davis
Ida Lozares, Lawrence Livermore National Laboratory (retired)
Bertram Ludaescher, San Diego Supercomputer Center
Kwan-Liu Ma, University of California, Davis
Jennifer Mariani, University of California, Davis
Sally McKee, Cornell University
Michael Minion, University of North Carolina
Frank Mueller, North Carolina State University
Christof Nuber, University of California, Davis
Beth Ong, Lawrence Livermore National Laboratory
Joseph Pasciak, Texas A&M University
Calton Pu, Georgia Institute of Technology
Elbridge Gerry Puckett, University of California, Davis
Ulrich Ruede, University of Erlangen
Paul E. Saylor, University of Illinois, Champaign-Urbana
Dan Schikore, CEI
Gregory L. Schussman, University of California, Davis
Rob van der Wijngaart, University of Bonn
Mladen Vouk, North Carolina State University
Gabriel Wittum, University of Heidelberg
Donald Wolitizer, California State University, Hayward
Jacob Ystrom, Royal Institute of Technology, Stockholm
Ludmil Zikatanov, Penn State University

Consultants

Bernie Alder, University of California (Professor Emeritus)
Randolph Bank, University of California, San Diego
Leo Breiman, University of California, Berkeley
Nancy Collins, University of Colorado, Boulder
Gene Golub, Stanford University
Anne Greenbaum, University of Washington
Charles Hansen, University of Utah
Michael Holst, University of California, San Diego
David Keyes, Old Dominion University
Heinz-Otto Kriess, University of California, Los Angeles
Luc Machiels, Swiss Federal Institute of Technology
Thomas Manteuffel, University of Colorado, Boulder

Stephen McCormick, University of Colorado, Boulder
Gregory Miller, University of California, Davis
Linda Petzold, University of California, Santa Barbara
Steve Schaffer, New Mexico Tech
Homer Walker, Worcester Polytechnic Institute

Department of Applied Science Faculty

Nelson Max
Garry Rodrigue
Rao Vemuri

Postdoctoral Researchers

Robert Anderson
Paul Castillo
Leonardo Colletti
Miguel Dumett
Jeff Hittinger
David Hysom
Bobby Philip
Markus Schordan
Leonid Tsap

University Collaborative Research Program Faculty and Students

Randolph Bank and Kathy Lu, University of California, San Diego
Padhraic Smyth and Scott Gaffney, University of California, Irvine
Mark van der Laan and Annette Molinaro-Clark, University of California, Berkeley
Berni Alder and Yihao Zheng, University of California, Davis
B.S. Manjunath and Jelena Tesic, University of California, Santa Barbara
Sutanu Sarkar, David Lopez, and Carlos Pantano, University of California, San Diego

LDRD Project Investigators

Terence Critchlow, LLNL, Center for Applied Scientific Computing
Bronis de Supinski, LLNL, Center for Applied Scientific Computing
Valerio Pascucci, LLNL, Center for Applied Scientific Computing

Students

Student Guests

Merico Argentati, University of Colorado, Denver
Peer-Timo Bremer, University of California, Davis
Paul Covello, University of California, Davis

Alessandro Croce, Politecnico di Milano, Italy
Davide Detomi, Politecnico di Milano, Italy
Ilja Friedel, California Institute of Technology
Boyce Griffith, New York University
Aglika Gyaourova, University of Nevada, Reno
Indrajeet Kumar, University of Utah
John Lai, University of California, Davis
Daniel Laney, University of California, Davis
Tushar Mohan, University of Utah
Vijay Natarajan, Duke University
Elijah Newren, University of Utah
Erin Parker, University of North Carolina
Jonathan Rochez, University of California, Davis
Jay Thomas, University of California, Davis
Yihao Zheng, University of California, Davis

Department of Applied Science Students

Aaron Fisher
Ben Gregorski
Ana Iontcheva
Joseph Koning
Robert Rieben
Josh Senecal

ISCR Students

Lucas Ackerman, Worcester Polytechnic Institute
Lisa Alano, University of San Francisco
Dave Alber, University of Illinois, Urbana-Champaign
John Anderson, University of the Pacific
Cheryl Barkauskas, Washington University, St. Louis
Bridget Benson, Cal Poly, San Luis Obispo
Rita Borgo, University of Pisa, Italy
Sadik (Han) Caglar, University of San Francisco
Timothy Campbell, University of Arizona
Karl Chen, University of California, Berkeley
John Clark, Northern Arizona University
Hillary Davis, Sierra High School
Paul Dostert, Texas A&M University
Roger Elion, Purdue University
Jason Estrada, Baylor University
Craig Falls, Hendrix College
Aaron Fisher, University of California, Davis
Jessica Fisher, Harvey Mudd College
Ilja Friedel, California Institute of Technology

Karen Glocer, University of California, Santa Cruz
Aglika Gyaourova, University of Nevada Reno
Matt Haddox, University of the Pacific
Chaz Hales, Brigham Young University
Keith Henderson, Purdue University
Amy Henning, University of California, Santa Cruz
Taylor Holliday, University of California, Davis
Bret Hull, University of California, Berkeley
Bryan Hunter, Allegheny College
Lorenzo Ibarria, Georgia Institute of Technology
David Jiambalvo, Rochester Institute of Technology
Ming Jiang, Ohio State
Kristaps Johnson, University of Rochester
Tzanio Kolev, Texas A&M University
Markus Kowarschik, University of Erlangen
Dedaimia Kozlovsky, University of Wisconsin-Madison
Ajith Mascarenhas, University of North Carolina
Deanna Midtaune, San Jose State University
Mohammed Mokbel, Purdue University
Evan Moran-Bernard, Carnegie Mellon University
Arne Naegel, Universitaet Heidelberg, Germany
James Newsome, University of Michigan
Luke Olson, University of Colorado
Susan Overstreet, Purdue University
Vera Pavel, Las Positas College
Ricardo Portillo, University of Texas at El Paso
Serban Porumbescu, University of California, Davis
Rachel Post, San Jose State University
Dan Rocco, Georgia Institute of Technology
Greg Scharlemann, Loyola Marymount University
Sunjeev Sikand, University of California, San Diego
Jonathan Strasser, University of California, Davis
Mark Stuppy, University of Missouri
Ryuta Suzuki, University of Minnesota
Erika Tarte, University of California, Berkeley
Charles Taylor, Brigham Young University, Idaho
Jeremy Thornock, University of Utah
Brian Truitt, New Mexico Institute of Mining and Technology
Ian Webb, Colorado State University
Aaron Wegner, Baylor University
Sanith Wijesinghe, Massachusetts Institute of Technology
Candita Woodis-Rucker, Diné College
I-Hsuan (Sandy) Wu, University of California, Davis

National Physical Science Consortium (NPSC) Student

Rachel Karchin, University of California, Santa Cruz

Workshops and Conferences

Copper Mountain Conference, Copper Mountain, CO ..... March 2002
Nonlinear Solvers and Differential Equations Workshop, Livermore, CA ..... March 2002
KAI ASCI Pathforward Workshop, Livermore, CA ..... March 2002
Conference on High Speed Computing, Gleneden Beach, OR ..... April 2002
XVth Householder Symposium on Numerical Linear Algebra, Peebles, Scotland ..... June 2002
BlueGene/L Workshop 2002, Tahoe, CA ..... August 2002
Algebraic Multigrid Summit Summit, Lake City, CO ..... September 2002